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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,826	08/08/2001	Yasuyuki Ohira	Hiroe 98-1488-D	3513

23413 7590 06/02/2006

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EXAMINER

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ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 06/02/2006

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/924,826
Filing Date: August 08, 2001
Appellant(s): OHIRA ET AL.

Patricia S. DeSimone
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 15, 2006 appealing from the Office action mailed July 15, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5439512	KAMIJIMA et al.	08/1995
4,430,466	COOPER	02-1984
5,858,521	OKUDA et al.	01-1999

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4,602,054	KANG et al.	07-1986
4,218,349	MINATONO et al.	08-1980

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-3, 6, 8-12, 14, 17-22, 24-31, and 33-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The claims have been amended to include the limitation of a minimum thickness of the sheet. The specification only has support for thicknesses of ranges 1 mm, 5 mm, and 10 mm. It does not have support for the entire range of 1 mm or greater.

Claims 1-3, 6, 8-12, 14, 17-22, 24-31, and 33-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims read on the material being a sheet, fiber, or combination thereof and then further limits that the sheet has a minimum thickness. The scopes of the claims are confusing because this is a broad range or limitation written with a narrow range or limitation that falls within the broad range or limitation (in the same claim). This is considered indefinite, since the resulting claim does not clearly set forth the metes and

bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, the claims recite the broad recitation that the material is in the form of a sheet, fiber, or combination thereof, and the claim also recites that the sheet has a thickness of 1 millimeter, which requires that the material must have a sheet aspect to it (not a fiber) and is the narrower requirement than the previous limitation.

Claims 1, 2, 6, 8, 12, 14, 17-22, 25-27, and 29-31, and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamijima et al. (US 5,439,512).

Kamijima teaches a composition for an anti-fouling paint that uses acrylic rubber (column 2, lines 50-68) with DCHBSA (column 9, line 32). The paint inherently undergoes some energy conversion when in use (column 1, lines 18-21). The paint comprises fillers (column 9, lines 65-68) and corrosion inhibitor (column 10, lines 10-43). The paint is applied by spraying (column 23, lines 10-15). When the paint is applied to the broad surface of the hull, it reads on being a sheet. Although the

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reference is silent in teaching that the energy conversion is due to dipoles being displaced, since the materials of the reference are the same as that of the claims, it must be inherent that the paint of Kamijima converts energy in this manner. Since the materials are the same, the paint must inherently absorb sound in the claimed frequency range as claimed by applicant. Claims 29-31 read on the paint heating up in the sun. The paint must inherently possess all the absorbing attributes of claim 35, since it is made of the same materials as the claimed invention. The reference fails to explicitly teach the thickness of the paint. However, to determine the thickness required such that sufficient anti-fouling property is supplied to the hull and reapplication is required least often would have been obvious at the time the invention was made to a person having ordinary skill in the art through routine experimentation. By doing so, sufficient anti-fouling is supplied and reapplication is minimized. Additionally, the only difference between the reference and the claimed process is the thickness of the layer. Absence evidence of criticality, a difference in thickness would have been obvious *Ex parte Khusid*, 174 USPQ 59.

Claims 1-3, 6, 8-12, 14, 17, 18, 19, 21, 22, 25, 26, 27, 29-31, and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper (US 4,430,466) in view of Okunda et al. (US 5,858,521).

Cooper teaches a composition for an impact resistant (energy conversion) tire that uses polyisoprene or acrylic rubber (column 2, lines 53-59) with DCHBSA as a vulcanization accelerator (column 4, lines 25-30). The tires comprise glass pieces as filler material within the applicant's compositional range (column 3, lines 1-25; column 5,

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lines 20-30). The examples show that the material may be in sheet form. Although the reference is silent in teaching that the energy conversion is due to dipoles being displaced, since the materials of the reference are the same as that of the claims, it must be inherent that the tires of Cooper convert energy in this manner. Since the materials are the same, the tires must inherently absorb sound in the claimed frequency range as claimed by applicant. Claims 29-31 read on the tires heating up in the sun. The tires would possess all the absorbing attributes of claim 35. The reference fails to explicitly teach the claimed amount of DCHBSA in the composition.

However, Okunda teaches that the degree of vulcanization affects the vibration dampening properties of the rubber and is controlled by the vulcanizing agents and accelerators (column 5, lines 20-35). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to determine the amount of vulcanizing agents and accelerators in the composition such that the desired degree of vulcanization is achieved. By doing so, the vibration dampening property of the tire is maximized. It would have been within the skill of one practicing in the art, through routine experimentation, to determine this value, absent evidence of criticality.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper (US 4,430,466) in view of Okunda et al. (US 5,858,521), as applied to claim 17 above, and further in view of Kang et al. (US 4,602,054).

Cooper, in view of Okunda, teaches the limitations of claim 17, as shown above, but fails to explicitly teach that the material is adjacent a fiber surface. However, Kang

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teaches that similar materials are formed into sheets and reinforced with fiber (column 1, lines 15-20). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to reinforce the material of Cooper with fibers. By doing so, a sturdier product results.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper (US 4,430,466) in view of Okunda et al. (US 5,858,521), as applied to claim 25 above, and in further view of Minatono et al. (US 4,218,349).

Cooper, in view of Okunda, teaches the limitations of claim 25. The references fail to explicitly teach that the composition is used in a shoe sole. However, Minatono teaches that tires and shoe soles both require vibration and impact absorption properties and that a composition used for tires will fulfill the absorption requirements for a shoe sole (column 1, lines 12-42). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the composition taught by Cooper as a shoe sole. By doing so, one would have a reasonable expectation of fulfilling the impact and vibration requirements for the shoe sole.

Claims 1-3, 6, 8-12, 14, 17, 18, 19, 21, 22, 25, 26, 27, 29-31, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okunda et al. (US 5,858,521).

Okunda teaches a composition for a vibration dampening material that uses natural or acrylic rubber (column 2, lines 60-65) with MBTS, MBT, or CBS as a

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vulcanization accelerator (column 3, lines 30-40). The material comprises filler material within the applicant's compositional range (tables). The material may be in sheet form. Although the reference is silent in teaching that the energy conversion is due to dipoles being displaced, since the materials of the reference are the same as that of the claims, it must be inherent that the material of Okunda converts energy in this manner. Since the materials are the same, the material must inherently absorb sound in the claimed frequency range as claimed by applicant. The reference teaches 5 parts by weight of accelerator per 60 parts by weight of base material (approximately 8.3 parts per 100 parts). This is slightly lower than the applicant's claimed range (10 parts per 100 parts).

However, Okunda is not limited to such an amount and further teaches that the degree of vulcanization affects the vibration dampening properties of the rubber and is controlled by the vulcanizing agents and accelerators (column 5, lines 20-35). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to determine the amount of vulcanizing agents and accelerators in the composition such that the desired degree of vulcanization is achieved. By doing so, the vibration dampening property of the material is maximized. It would have been within the skill of one practicing in the art, through routine experimentation, to determine this value, absence evidence of criticality.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okunda et al. (US 5,858,521), as applied to claim 17 above, and further in view of Kang et al. (US 4,602,054).

Okunda teaches the limitations of claim 17, as shown above, but fails to explicitly teach that the material is adjacent a fiber surface. However, Kang teaches that similar materials are formed into sheets and reinforced with fiber (column 1, lines 15-20). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to reinforce the material of Okunda with fibers. By doing so, a sturdier product results.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okunda et al. (US 5,858,521), as applied to claim 25 above, and in further view of Minatono et al. (US 4,218,349).

Okunda teaches the limitations of claim 25. The references fail to explicitly teach that the composition is used in a shoe sole. However, Minatono teaches that shoe soles both require vibration and impact absorption properties and that a composition used for are similar to those in Okunda (column 1, lines 12-42). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the composition taught by Okunda as a shoe sole. By doing so, one would have a reasonable expectation of fulfilling the impact and vibration requirements for the shoe sole.

(10) Response to Argument

Applicant argues that support for the "or greater" aspect of the range 1 mm or greater is found on page 94, lines 13-16. This is not found convincing. This cited

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paragraph only discloses 1 mm, 5 mm, and 10 mm. The entire range of 1 mm or greater (which includes thicknesses much larger than this) is not disclosed. This rejection should be maintained.

Applicant has argued that the claims are not indefinite and provides an explanation for what is meant. It is noted that this explanation has varied throughout prosecution history. Regardless, the claims further limit the claim to “the sheet has a thickness of...” (emphasis added). This is a narrow limitation within a broad limitation located within the same claim and is therefore indefinite. This rejection should be maintained.

Applicant argues that Kamijima fails to make obvious the thickness requirement. This is not found convincing. One of ordinary skill in the art would understand the pros and cons associated with the thickness of paint and could determine, through routine experimentation, the optimal thickness required for each use. One exemplary situation in accordance with Kamijima is that as the organic material is submerged in salt water, some of the material may be slowly washed away or degrade. A thicker coating would reduce the amount of recoating required. Additionally, a change in thickness, size, or proportions of a layer would have been obvious, absent evidence of criticality. The applicant has been given the opportunity to provide evidence of criticality of the claimed range, but has not provided such evidence.

Applicant argues that a sheet of paint does not read on a sheet because it is not free standing. This is not found convincing. Nothing in the claims, or the specification, requires that the sheet be free-standing. The definition of a sheet is: a broad, flat,

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continuous surface or expanse (www.dictionary.com). The sheet of paint taught by Kamijima reads on this.

Applicant argues that Okuda teaches to adjust vulcanization agents and not the accelerators. Applicant states that the accelerators are like a catalyst and there would be no motivation to adjust the amount of catalyst as it would not affect the degree of vulcanization. This is not found convincing. Unless the rubber is completely vulcanized in the reference (which it is not), then equilibrium has not been achieved and further curing time (heat) would allow for more vulcanization to occur. Therefore, for the same amount of curing time, more accelerators would allow for more vulcanization to occur. The amount of accelerators certainly affects the amount of vulcanization for any process except one that is completely vulcanized. Additionally, even if the amount of vulcanization is unaffected by the amount of accelerators, the time required would certainly be reduced and this would be a benefit for adjusting the amount of accelerators in the composition. Lastly, concentration limitations are obvious absent a showing of criticality. *Akzo v. E.I. du Pont de Nemours* 1 USPQ 2d 1704 (Fed. Cir. 1987). The applicant has been the opportunity to provide evidence of criticality of the claimed range, but has not provided such evidence.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

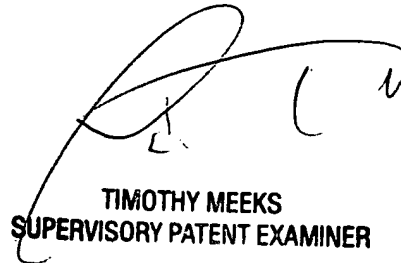
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